Reply to the Editor:

We appreciate the comments of Bottio and colleagues on our recent report of intraoperative failure involving 4 bovine pericardial mitral prostheses.[1] The correspondents point out that Carpentier-Edwards Perimount bioprostheses require physiologic pressure to overcome the inherent limited leaflet coaptation that results from no-pressure fixation. They further comment that had the valves in our report been subjected to more physiologic hemodynamics, they might have demonstrated normal function.

To correct any misunderstanding, we would note that 2 of the valve failures were demonstrated after separating from cardiopulmonary bypass with acceptable hemodynamics. At physiologic pressures, there was still massive incompetence, as demonstrated by means of transesophageal echocardiography. The other 2 failed valves were tested before atrial closure. In each of these cases, the degree of insufficiency observed by the surgeons was extremely severe and far greater than that associated with incomplete closure of a pericardial valve at low pressures, a phenomenon with which we are quite familiar.

Paul C. Saunders, MD
Eugene Grossi, MD
Department of Surgery
New York University Medical Center
New York, NY 10016

Reference

1. Saunders PC, Grossi EA, Esposito RA, Bizekis CS, Strong MD, Colvin SB. Failure of four bovine pericardial mitral prostheses. *J Thorac Cardiovasc Surg*. 2004;127:267-8.
doi:10.1016/j.jtcvs.2004.04.046

Moderate mitral regurgitation repair at the time of coronary bypass: When is it required?

To the Editor:

We read with great interest the article recently published in the *Journal* by Mallidi and colleagues[1] concerning the debated dilemma of whether to treat mild-to-moderate mitral regurgitation (MR) at the time of coronary artery bypass grafting (CABG).

The authors studied a consecutive series of 163 patients with mild-to-moderate MR undergoing isolated CABG matched 1:2 with 326 patients without MR undergoing the same operation. Several preoperative variables were considered for matching. Among them, the extent of coronary disease, left ventricular (LV) ejection fraction, functional New York Heart Association class, and recent myocardial infarction were the specific variables. The authors report that patients with MR had poor event-free survival and worse late functional status at follow-up. They conclude that "consideration should be given to repairing moderate MR to improve long-term quality of life."

This is a very interesting topic, about which there is conflicting evidence in the literature. The importance of the cardiac variables chosen by the authors for matching the 2 groups of patients is out of discussion, but in our opinion the increasing attention on LV volume as a prognostic indicator after infarction and CABG should be taken into consideration. LV volume is often unreported in articles concerning CABG in ischemic cardiomyopathy, even if it seems now clear that LV enlargement is far more predictive of postoperative outcome[2,3] and determines the ultimate prognosis.[4,5] Yet it cannot be ignored that there is not necessarily correspondence between low EF and LV volumes. The authors report that 44.5% of patients had poor preoperative LV function (<40%); at late follow-up, 20% of patients in the MR group were in New York Heart Association functional class III/IV; and in a subset of 49 patients with echocardiographic late evaluation, one third had worsening of the MR. It would be very interesting to know the preoperative, as well as the late, LV volume in all of these subgroups of patients. Probably a subgroup requiring mitral valve repair would be recognized.

We fully agree with Mallidi and colleagues[1] that at the time of CABG, the "finding of mild to moderate MR should not be treated as an incidental finding but should be further evaluated." We also support that an accurate and complete evaluation is mandatory, but one point should be kept in mind: more important than MR grade itself is the LV morpho-functional status, which should guide the surgical indications and the choice of the best treatment. As Steven Bolling is wont to say: "ischemic mitral regurgitation is a ventricular disease, not a valvular disease."

Pino Fundarò, MD
Paolo Tartara, MD
Ettore Vitali, MD
Ospedale Niguarda Ca'Granda
Dipartimento Cardiotoracovascolare A. De Gasperis
Unità Operativa di Cardiochirurgia
Milan, Italy

References

1. Mallidi HR, Pelletier MP, Lamb J, Desai N, Sever J, Christakis GT, et al. Late outcomes in patients with uncorrected mild to moderate mitral regurgitation at the time of isolated coronary artery bypass grafting. *J Thorac Cardiovasc Surg*. 2004;127:636-44.
2. Yamaguchi A, Ino T, Adachi H, Murata S, Kamio H, Okada M, et al. Left ventricular volume predicts postoperative course in patients with ischemic cardiomyopathy. *Ann Thorac Surg*. 1998;65:434-8.
3. Maxey TS, Reece TB, Ellman PI, Butler PD, Kern JA, Tribble CG, et al. Coronary artery bypass with ventricular restoration is superior to coronary artery bypass alone in patients with ischemic cardiomyopathy. *J Thorac Cardiovasc Surg*. 2004;127:428-34.
4. Buckberg GD. Congestive heart failure: treat the disease, not the symptoms—return to normalcy. *J Thorac Cardiovasc Surg.* 2001;121:628-37.
5. Schinkel AFL, Poldermans D, Rizzello V, Vanoverschelde J-LJ, Elhendy A, Boersma E, et al. Why do patients with ischemic cardiomyopathy and a substantial amount of viable myocardium not always recover in function after revascularization? *J Thorac Cardiovasc Surg*. 2004;127:385-90.
doi:10.1016/j.jtcvs.2004.05.032

Reply to the Editor:

We agree with Drs Fundarò, Tartara, and Vitali that ischemic mitral regurgitation (MR) is a disease process with many unanswered questions regarding its ideal treatment. The purpose of our study was to determine the clinical outcomes of patients treated with isolated coronary artery bypass grafting who also had mild-to-moderate MR on a preoperative ventriculogram.[1] When compared with a similar cohort without preoperative MR, our data revealed similar late survival but worse event-free survival and late functional status for those patients with preoperative MR. In those patients with both preoperative and postoperative echocardiograms, approximately one third demonstrated worsening MR. However, ventriculography alone is inadequate to properly assess MR preopera-